

# EUROPEAN PATENT OFFICE

## Patent Abstracts of Japan

PUBLICATION NUMBER : 59227726  
PUBLICATION DATE : 21-12-84

APPLICATION DATE : 07-06-83  
APPLICATION NUMBER : 58102289

APPLICANT : NIPPON KENMAZAI KOGYO KK;

INVENTOR : TSUDA KOJI;

INT.CL. : C01G 25/00 B24D 3/00 C04B 31/16

TITLE : GRINDING MATERIAL OF ALUMINA-ZIRCONIA-TITANIA SYSTEM

ABSTRACT : PURPOSE: The titled grinding material applicable to heavy grinding fields, having improved grinding performances, obtained by adding  $ZrO_2$ ,  $TiO_2$  and  $Y_2O_3$  or a mineral of rare earth element containing  $Y_2O_3$  as a melting additional matter to  $Al_2O_3$ , melting them, cooling them rapidly.

  
CONSTITUTION: In a grinding material of  $Al_2O_3$ - $ZrO_2$ - $TiO_2$  system obtained by adding  $ZrO_2$  and  $TiO_2$  to  $Al_2O_3$ , melting them, cooling them rapidly, preferably 0.05~7wt%  $Y_2O_3$  or a mineral of rare earth element containing  $Y_2O_3$  as another melting additional matter based on the total amounts of  $Al_2O_3$ ,  $ZrO_2$ , and  $TiO_2$  is added to them, so that grinding performances are improved and this grinding material is applicable to especially light grinding among heavy grinding, and applicable well to Ti alloy. The addition of  $Y_2O_3$  or the mineral of rare earth element containing  $Y_2O_3$  in the range crystallizes tetragonal system crystal of  $ZrO_2$  in about 70~100% remaining ratio, precipitation ratio of  $\alpha$ - $Al_2O_3$  of initial crystal is suppressed to  $\leq$  about 5%, and grinding performances can be improved.

COPYRIGHT: (C)1984,JPO&Japio

**THIS PAGE BLANK (USPTO)**